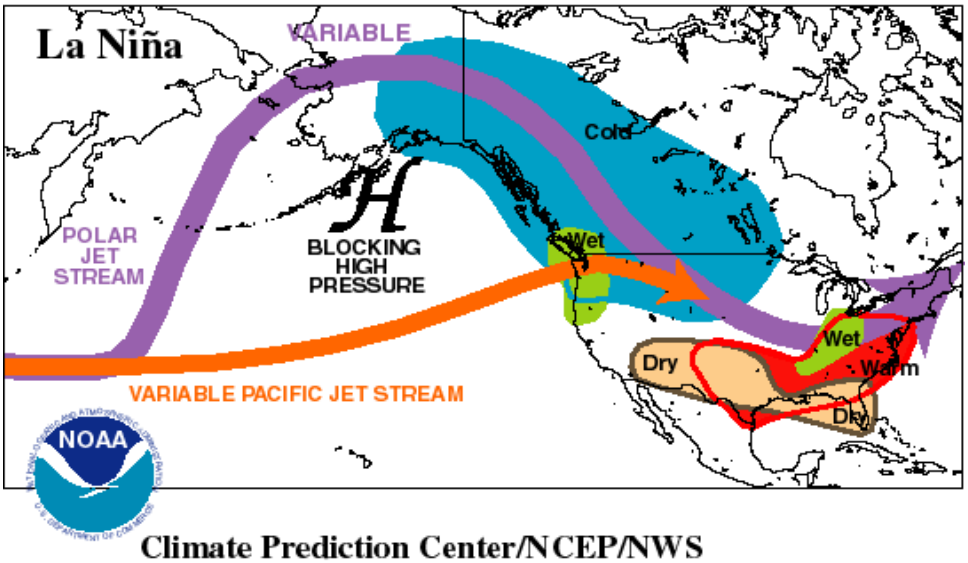
Winter Outlook 2011-12 for Eastern Nebraska and Western Iowa

Barb Mayes Boustead
Meteorologist and Climate Program Manager
National Weather Service Omaha/Valley NE

The National Weather Service's Climate Prediction Center has released its latest set of outlooks for the coming year, including the most updated version of the winter outlook. The outlooks are based strongly on the presence of a redeveloping La Niña, as well as on temperature and precipitation trends and also soil moisture conditions heading into the winter season.

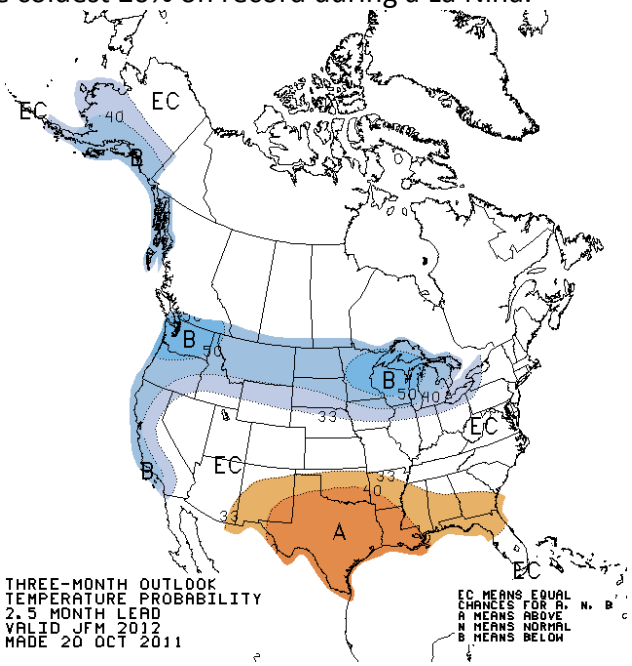
A weak to moderate La Niña is expected to continue through at least the end of winter. The winter of 2010-11 also was influenced by a strong La Niña, and many of the same weather patterns could be favored again this winter. It is important to remember that every La Niña event is unique. La Niña tends to "load the dice", or tilt the odds, toward certain weather patterns, but there can be quite a bit of variability from event to event. Also, it is important to remember that other signals can influence the winter weather patterns, including the North Atlantic Oscillation (NAO) and others. La Niña is one piece of a complex puzzle that shapes the winter weather in different parts of the country.

La Niña tends to bring a stormier and more variable weather pattern to the Dakotas and Great Lakes into the Ohio River valley regions, while southern regions like Texas and Oklahoma across the Gulf States tend to be left out of the favored storm track. As a result, the northern parts of the country into the Ohio River valley show a higher than usual chance for wet conditions, and the southern Plains and Gulf Coast states have a higher than usual chance for dry conditions. The more variable and "wavy" jet stream also tends to drag more cold air out of the Arctic and into the northern U.S., with a higher than usual chance for colder than average temperatures through the winter. Meanwhile, the South tends to have a higher than usual chance for warmer than average temperatures through the winter.

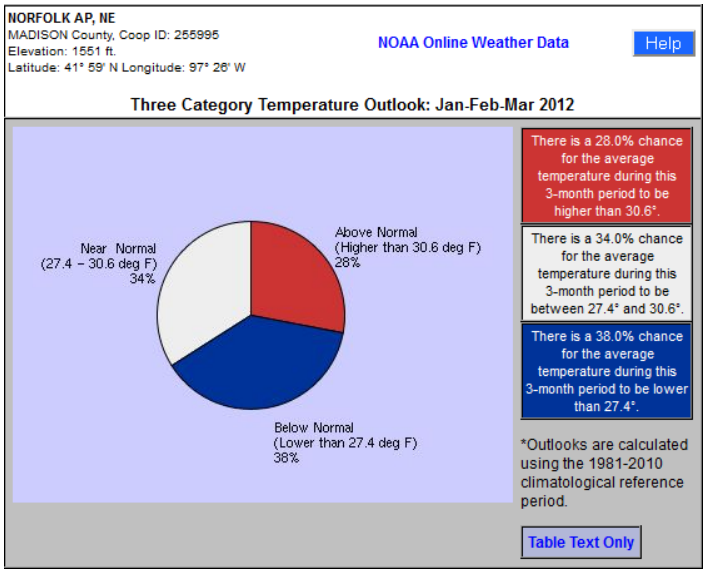


Favored weather patterns during La Niña events.

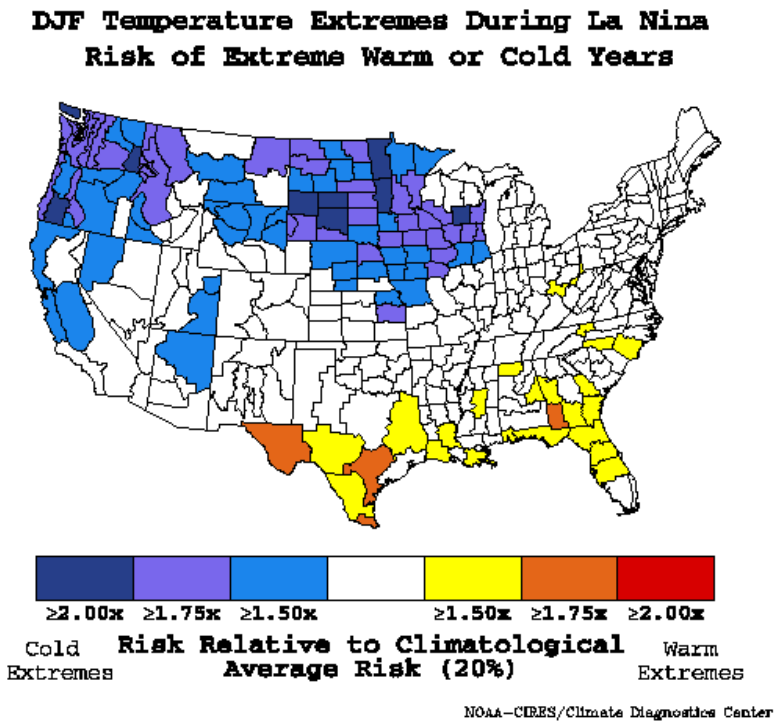
Eastern Nebraska and western Iowa tend to be right in the middle of the strongest signals. Overall, because of the roller coaster between colder temperatures north and warmer temperatures south, eastern Nebraska and western Iowa tends to have equal chances for above, near, or below normal temperatures. For this winter, CPC indicates a slightly higher than usual chance (33-40%) for cold temperatures to slip into far northern Nebraska for the December-January-February months (along with a 33% chance for near-normal temperatures and a 27-33% chance for above normal temperatures). Elsewhere across eastern Nebraska and western Iowa, CPC indicates equal chances to be above, near, or below normal temperatures. Past records also indicate a higher than usual chance for average winter temperatures to reach the coldest 20% on record during a La Niña.



CPC temperature outlook for January-February-March, with a 33-40% chance of colder than normal conditions in far northern Nebraska (light blue).

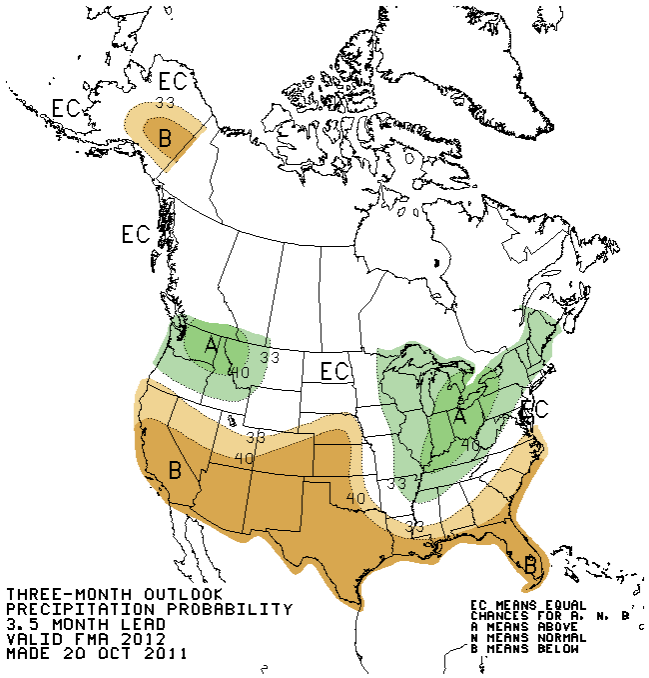


Local temperature outlook for Norfolk, Nebraska, in January-February-March, showing that the odds are slightly tilted toward the colder-than-normal category (blue). Other local sites are available at http://www.nws.noaa.gov/climate/calendar_outlook.php?wfo=oax

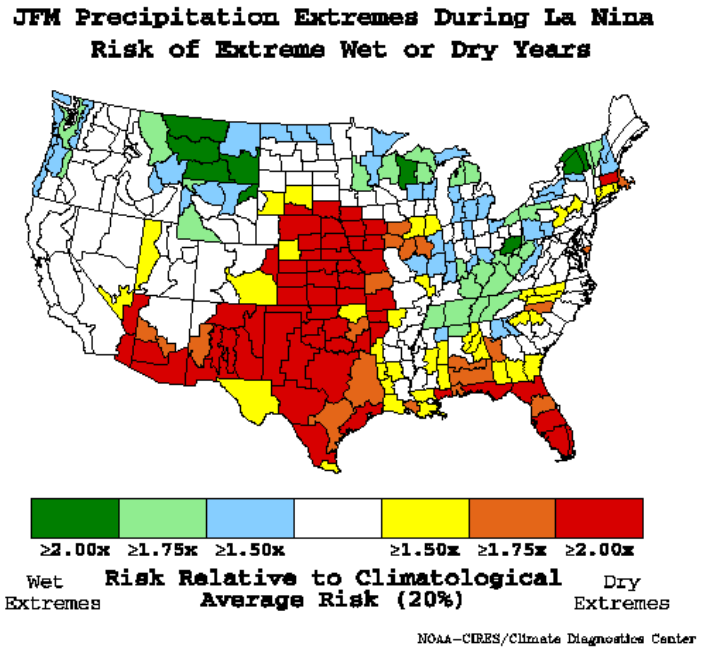


Risk of December-January-February temperatures to be in the coldest or warmest 20% compared to the 100-year record.

Early in the winter months, CPC indicates equal chances for above, near, and below normal precipitation in eastern Nebraska and western Iowa. By late winter and early spring, though, CPC indicates a higher than usual chance (33-40%) for dry weather in eastern Nebraska (along with a 33% chance for near-normal precipitation and a 27-33% chance for wet conditions). Past records also indicate a higher than usual chance for average January-February-March precipitation to reach the driest 20% on record during a La Niña.



CPC precipitation outlook for February-March-April, with a 33-40% chance of drier than normal conditions in eastern Nebraska (light tan).



Risk of January-February-March precipitation to be in the wettest or driest 20% compared to the 100-year record.

We might see slight shifts away from our climate averages this winter, but it is important to keep a few things in mind about climate forecasts. Climate outlooks make predictions about the average conditions through the winter season (in three-month chunks, such as December-January-February or January-February-March). Individual weather events still can bring warm and cold periods, as well as storms (snow and otherwise) with quiet periods in between. In other words, weather still happens! A winter than ends up averaging colder than normal can still have days that are warmer than normal, and a winter that ends up averaging drier than normal almost certainly will still contain snow, ice, and rain.

We will monitor two "problem areas" especially closely through the winter months. The first is the potential for drought conditions to creep northward out of the Southern Plains and into the Missouri River valley region. To monitor the latest drought information, refer to the U.S. Drought Monitor. The second is the potential for wetter and colder than normal conditions in the Dakotas and Montana to once again bring a heavy snowpack to the headwaters of the Missouri River, which could set up the potential for spring flooding even if conditions are near-normal or drier than normal locally.

Please contact Barb at the NWS Omaha/Valley office if you have questions about the climate outlooks for this winter (and beyond!).

10/22/2011